CLAIMS

1. A method for making macroporous ceramics, comprising:

combining a ceramic precursor with an aqueous or nonaqueous emulsion in which the polar phase thereof is an oil-immersible polar liquid;

adding a base sufficient to induce gelation;

drying the resultant gel; and

calcining the dried gel.

2. The method of claim 1 wherein the emulsion is nonaqueous.

3. The method of claim 2 wherein the nonaqueous emulsion is an oil in formamide emulsion.

4. The method of claim 1 in which said emulsion has been stabilized by the incorporation of a surfactant.

5. The method of claim 4 in which a small amount of heavy oil soluble material that is oil soluble but which has very low solubility in the polar liquid is added to the oil phase of the emulsion.

6. The method of claim 5 in which said added material is silicone oil.

7. The method of claim 4 in which said surfactant is a triblock polymer of the formula (ethylene osxide)$_n$-(proxylene oxide)$_m$-(ethylene oxide)$_n$ wherein 2 n/m is a value from 0.3 to 0.4.

8. The method of claim 1 in which said oil is an alkane of from 8 to 20 carbon atoms.

9. The method of claim 8 wherein said alkane is isooctane.

10. The method of claim 8 wherein said alkane is decane.

11. The method of claim 8 wherein said alkane is hexane.

12. The method of claim 2 wherein said ceramic percursor is a metal oxide.

13. The method of claim 12 in which said metal oxide is selected from titanium dioxide, zirconium dioxide and silicon dioxide.

14. The method of claim 1 in which said emulsion is fractionated to obtain a desired size and distribution of emulsion droplets.

15. A method for making macroporous ceramics, comprising:

combining a metal oxide with an emulsion of an alkane in formamide; which also contains a surfactant and, in its oil phase, a small amount of oil-soluble material that is oil soluble but which has very low solubility in formamide;

adding a base sufficient to induce gelatin;

drying the resultant gel; and

calcining the dried gel.

16. A macroporous ceramic having micropores of substantially uniform diameter uniformly dispersed therein.

17. The macroporous ceramic of claim 16 in which said pores are in the range of 0.5μm to 5μm micrometers.

18. The macroporous ceramic of claim 16 in which the ceramic is a metal oxide.

19. The macroporous ceramic of claim 18 in which said metal oxide is selected from titanium dioxide, zirconium dioxide and silicon dioxide.